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ABSTRACT

This project brought together educational theorists and practitioners in Spain to create a model of teacher training based on research by trainees into their own practice and to create a curriculum of Spanish language adapted to the students of the location where it was developed. The project was undertaken in the context of educational policy reforms which called for cooperation among education professionals and for teachers to make their own curricula adapted to their own schools with the general curriculum as a guide. The project took four stages each of which required a dynamic process in which the four moments of planning, action, observation, and reflection occurred in a spiral pattern. Specific components included weekly meetings of all members and putting plans into practice. Data collection included tape recording of the sessions of seminars, records of seminars, working documents, participant observation of classrooms, video recording, and partial reports. The process made possible a joint reflection on the questions and hypotheses arising from the dynamics of the members' interaction. Among the conclusions were: (1) setting into practice the model of action research creates a new perspective on the approach itself; (2) theorists had the chance to acquire practical competence without disturbing class life; and (3) working on a specific project served as a model for generalization to other levels. (JB)

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# INTERNATIONAL CONFERENCE ON TEACHER RESEARCH

**15-19 April, 1995**

## COOPERATIVE RESEACH: AN EXPERIENCE DEVELOPED BETWEEN THEORISTS AND PRACTITIONERS

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# COOPERATIVE RESEARCH: AN EXPERIENCE DEVELOPED BETWEEN THEORISTS AND PRACTICERS

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## INTRODUCTION

The research we are presenting was set with the purpose of advancing in the attainment of two important targets for the educational change that is being carried out in the State and more particularly in the Basque Country: 1st) Creation of a model of teacher-training, based on the research into their own practice and 2nd) Creation of a Curriculum of Spanish Language, adapted to the pupils of the centre where it is developed.

The achievement of the second target, very concrete, centred on the area of language and approached from the needs of the practicers that are a part of the research team, gives us the adequate basis to answer the questions issued at the consolidation of a model of training for teachers. Therefore, the stages of such a model are shaped as we analyse the theorists' and practicers' own actions.

## 1. A model of cooperative research

The Educational Reform, set up at a State level, has forced to review the programs of teacher-training. It seems logical that a change in tuition calls for a training according with the changes proposed, of the teachers who are to make this change possible in the classrooms.

From the Administration, and more particularly from the Basque Administration, they aim at a cooperative work from the part of professionals of education, the joint reflexion of the school teachers who, taking the general curriculum as a guide, will make their own curricula adapting the objectives to the reality of the schools.

It is within this context of change and advance in the training of teachers that we place our research. We understand the training of teachers from the cooperative work among theorists and practicers, the latter being the ones that put forward the issues to research into.

We define Cooperative Research as " the work carried out by members of the staff of two or more institutions, one more devoted to scientific research or to the training of professionals and the other a school or institution where these professionals work" (Bartolome, 1994).

In our case the group was made up by professionals of the school (3) and professionals of the various departments of the F.I.C.E. of the University of the Basque Country (U.P.V.) (4). The development of their teaching in the area of language was a common point of the three professionals of the school. The university professors have been working together for several years, and make up a research team.

Cooperative Research, such as it has been defined, has some basic elements associated to the process of development. The interest of the group in working on problems in the process of innovation of educational practice, is linked to the idea of professional training through researching into one's own practice. For this reason in this study we approach the elements of cooperative research from the first stages of the process. We summarize those that we consider necessary to point out:

*a) The problems of research are raised by the practicers participating.*

The demand is presented by the practicers on " requesting from people working within the University ambit, the cooperation in order to improve the educational practice within the context of the current Reform". It is the practicers themselves who raise their problems and specify the area to develop (L2).

The definition and specification of the problem will be the task of both theorists and practicers in the first phase of the research.

*b) The collaboration between both groups will make it possible to look for solutions to the problems raised by the practicers.*

All participants work together at each stage of the project. The decisions on the planning and action are agreed on by the group at the weekly meetings of the seminar, the same as the processes of collection and analysis of data.

The first sessions focus more on clearing words and attempt to set up a common language for all the members of the group. These sessions - discussions- will take place throughout the process, simultaneously with other activities. Thus, we carry out the training and participation of all members at the same time.

*c) The process brings about the professional development of its members.*

The joint work of professionals of research on the investigation of practical problems through a process of putting in common, clarifying ideas and going deep into the analysis of problems, brings about a change of attitudes and the acquisition of new knowledge. Thus, professional basic knowledge is enlarged and research skills are learnt that can be used for future work.

The evaluation made by the group throughout the process and at the end of

each stage accounts for the effect of the process on the members of the group. In this sense, the building of meaning and the generation of knowledge through work done by oneself enables comprehension and putting into practice of the approach underlying the educational reform.

## 2. Curriculum of Spanish language

The second target we aimed at is linked to the curriculum of Spanish language. This target gathers the needs raised by practicers that are part of the group and work on the area of language.

The educational reform has some particularities in the Basque Country, specially concerning the area of language. It is a bilingual country (Euskera - Spanish) and a growing number of school groups both in public and private centres are learning Spanish language as a second language (L2), being Euskera their first language (L1).

Bilingual teaching (Euskera - Spanish) has a frame in the law of Basque Public School (Law 1/1993, 19th February. BOPV, 25th February) that recognizes the linguistic rights of both languages in the Basque Country.

Due to the socio-linguistic situation of the Basque Country, these linguistic rights are on a stage of normalization, and in order to overcome the diglossic situation the current administration takes as a historical legacy, the regulation of linguistic models is proposed.

These models have been in effect in the Basque Country since 1992 (Law 1/1982, of 24th November, Basic of Normalization of the Use of Euskera), which has permitted its generalization within the whole Community and the appearance of a great many variants of such models in their school practice. However, the models, such as they are defined in the Law are as follows:

-**Model A**, in which the curriculum is to be developed basically in Spanish, it being possible to develop in Basque some of its activities or subjects.
-**Model B**, in which the curriculum is developed in Euskera and Spanish.
-**Model D**, the curriculum is developed in Euskera, Spanish being a subject to develop from the 3rd year of Primary School.

The school in which we have carried out the experience we are presenting corresponds to a centre of Model B-D, in which a process of early immersion has been taking place. Early immersion develops within the school life and teaching a Basque sociolinguistic climate that allows the pupils, wheter they come from Euskera-speaking or Spanish-speaking families, acquire linguistic competences that enable them to live and to identify themselves with Euskera as a tool for study and communicative relationship within the school-life. Thus the School Educational Project (P.E.C.) negotiated by the various sectors of the educational community defines among its identifying marks Euskera as a linguistic option of tuition and of use within the school.

Logically, immersion models (B - D) when betting for motivation and implication in favour of the global euskaldunization of the school life place the area of language in a position of L2 with regard to the general targets of the school. What does this new assignment of curriculum mean for the area of language? There has been little reflexion on it, both among the sciences of language and among the sciences of education.

## 3. Context of the experience

This experience, as we have pointed out, was born from the collaboration between theorists and practicers. The school centre where the practicers are located was the point of reference for the study, systhematization, development and evaluation of the adaptations of curriculum in the area of language made by the

group. The discussion seminar brought us data for the improvement of the practices, as well as for working out theories and concepts through the corroboration of hypothesis emerging throughout the study.

Therefore we shall describe below those data of the school centre helping to set into context the experience.

It is a public centre, situated in an urban area. The socio-linguistic and family context is mainly Spanish-speaking, as it usually is in urban areas. The centre offers three linguistic treatments of immersion already consolidated, so shaping three lines of schooling in Model B and D. Most teachers are Basque-speaking.

Just like all public centres, this school takes part in the plan of integration by having subjects with special needs integrated in normal groups, and benefiting with support teachers.

Among the identification marks of the centre, defined in the educational project (P.E.C.), we find: associated values, treatment of diversity, linguistic treatment, pedagogical and methodological principles and the style of management and participation of the centre. This document was attentively studied by the work group so as to use it as a reference document for the development of the curriculum in the area of language.

The pupils in this school centre, and more particularly those where the experience took place, belong to a medium-low social class, in accordance with the suburb where the school is located. The experience was developed in: the class group of 3rd year of primary school, Model B (bilingual with immersion), group made up by 16 pupils, one of whom is in integration and needs permanent support for all areas and 5 of whom need some support of no significance; in 3rd and 4th year of primary school Model D, group made up by 16 pupils (aged 8-9) among whom there is one child needing permanent support and 3 needing it at specific times.

## 4. Stages of the research

The planning, development and evaluation of the experience presented comprise three stages of the process. The 4th stage concerns the general valuation of the work and the theorical abstraction based on the reports worked out throughout the work.

At every stage the targets the group aimed at were defined, and the raising of new objectives gave place to the next stage. We are speaking about flexible plannings that are modified during the process.

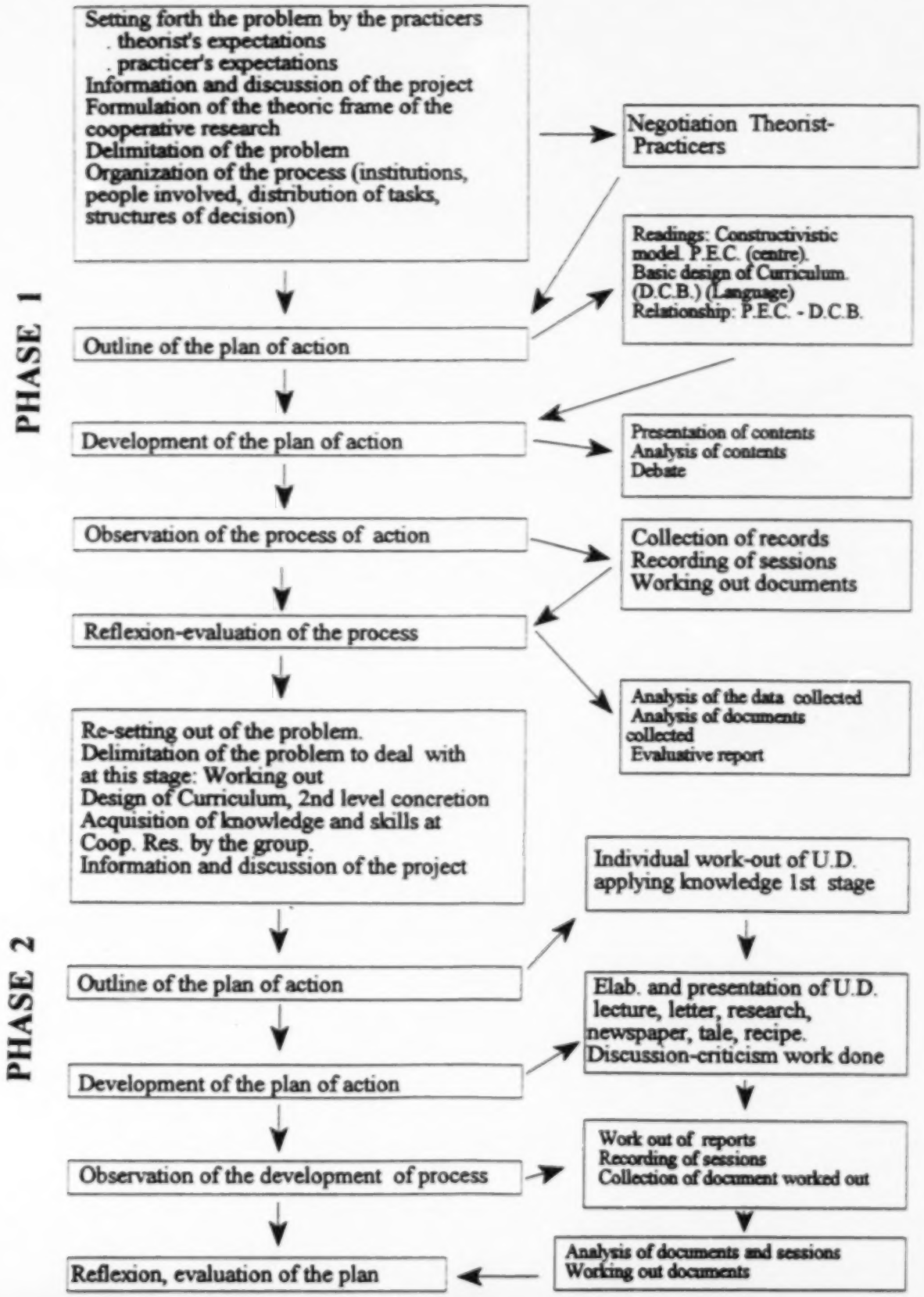
Thus, in the first stage we should point out: 1) the importance of collecting and stating the expectations and interests of the members of the team 2) the acquisition of a conceptual frame and common language that permits communication among the members of the group and 3) outlining a work plan.

The second stage focused more on: 1) clarifying the problem of study 2) planning the work in order to develop the curriculum in the area of language at the second level of concretion and 3) planning and evaluating the different moments, considering the methodological learning of the members of the team.

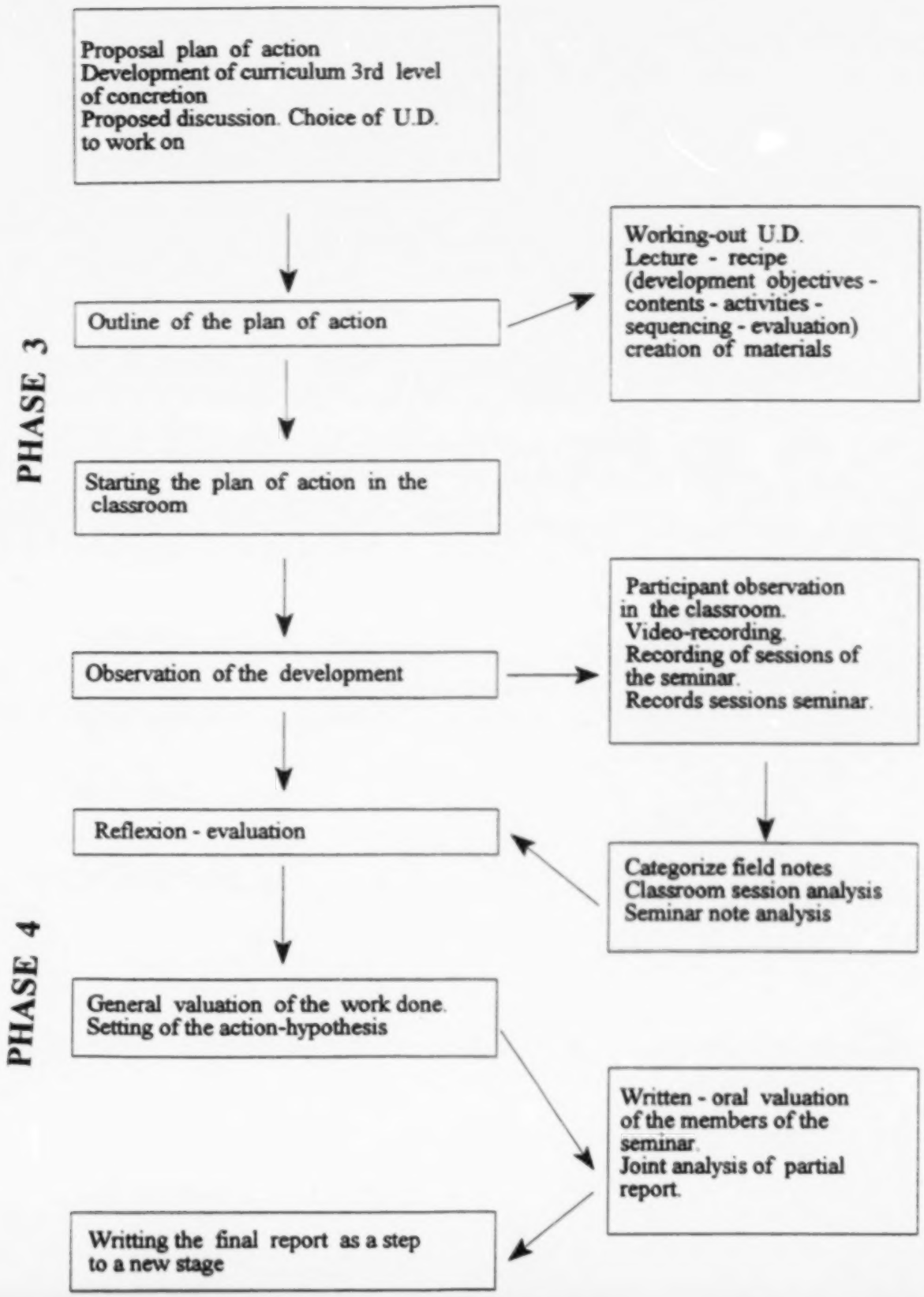
At the third stage the didactic units (U.D.) were concreted. Thus, it is at this stage that we approached: 1) the outline, development and evaluation of a didactic unit and -on the process itself- 2) the learning of the methods and techniques used for the collection of data and their analysis.

The 4th and last stage of this process focused on: 1) general valuation of the work done 2) checking of the action-hypothesis stated and 3) writing of a final report as a step to a new stage.

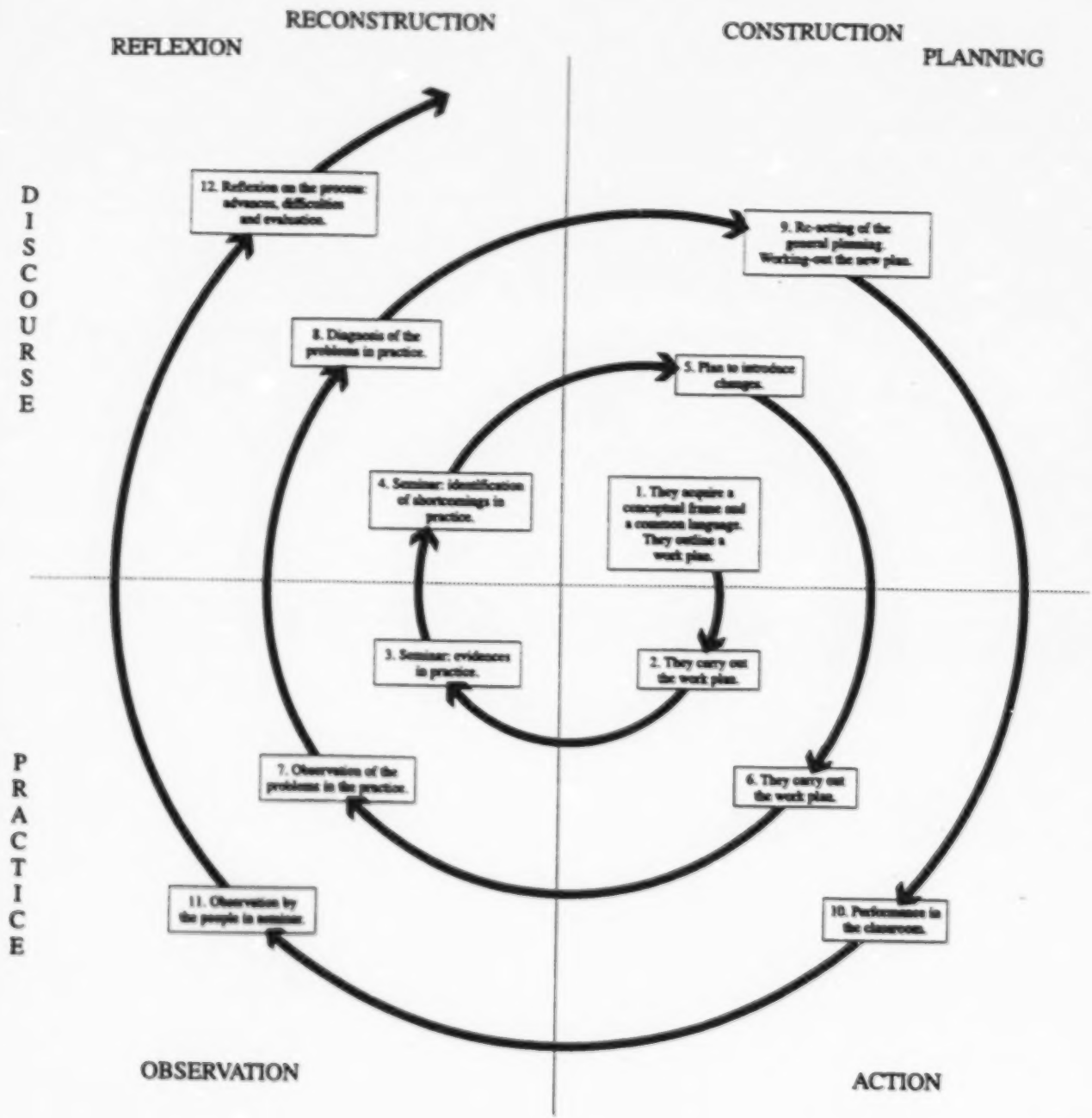
# PROCESS OF THE COOPERATIVE RESEARCH


PHASE 1
Setting forth the problem by the practicers
. theorist's expectations
. practicer's expectations
Information and discussion of the project
Formulation of the theoric frame of the cooperative research
Delimitation of the problem
Organization of the process (institutions, people involved, distribution of tasks, structures of decision)
Negotiation Theorist-Practicers
Readings: Constructivistic model. P.E.C. (centre).
Basic design of Curriculum. (D.C.B.) (Language)
Relationship: P.E.C. - D.C.B.
Outline of the plan of action
Development of the plan of action
Presentation of contents
Analysis of contents
Debate
Observation of the process of action
Collection of records
Recording of sessions
Working out documents
Reflexion-evaluation of the process
Analysis of the data collected
Analysis of documents collected
Evaluative report
Re-setting out of the problem.
Delimitation of the problem to deal with at this stage: Working out
Design of Curriculum, 2nd level concretion
Acquisition of knowledge and skills at Coop. Res. by the group.
Information and discussion of the project
PHASE 2
Individual work-out of U.D. applying knowledge 1st stage
Outline of the plan of action
Elab. and presentation of U.D. lecture, letter, research, newspaper, tale, recipe.
Discussion-criticism work done
Development of the plan of action
Work out of reports
Recording of sessions
Collection of document worked out
Observation of the development of process
Analysis of documents and sessions
Working out documents
Reflexion, evaluation of the plan

# PROCESS OF THE COOPERATIVE RESEARCH


Proposal plan of action
Development of curriculum 3rd level of concretion
Proposed discussion. Choice of U.D. to work on
Outline of the plan of action
Working-out U.D.
Lecture - recipe (development objectives - contents - activities - sequencing - evaluation)
creation of materials
PHASE 3
Starting the plan of action in the classroom
Observation of the development
Participant observation in the classroom.
Video-recording.
Recording of sessions of the seminar.
Records sessions seminar.
Reflexion - evaluation
Categorize field notes
Classroom session analysis
Seminar note analysis
PHASE 4
General valuation of the work done.
Setting of the action-hypothesis
Written - oral valuation of the members of the seminar.
Joint analysis of partial report.
Writting the final report as a step to a new stage

# PROCESS OF THE COOPERATIVE RESEARCH


RECONSTRUCTION
CONSTRUCTION
REFLEXION
PLANNING
DISCOURSE
12. Reflexion on the process: advances, difficulties and evaluation.
9. Re-setting of the general planning. Working-out the new plan.
8. Diagnosis of the problems in practice.
5. Plan to introduce changes.
4. Seminar: identification of shortcomings in practice.
1. They acquire a conceptual frame and a common language. They outline a work plan.
3. Seminar: evidences in practice.
2. They carry out the work plan.
7. Observation of the problems in the practice.
6. They carry out the work plan.
11. Observation by the people in seminar.
10. Performance in the classroom.
PRACTICE
OBSERVATION
ACTION

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## 5. Methodology

The development of each stage requires a dynamic process, in which the four moments of planning, action, observation, reflexion, occur in the shape of spiral. This is the methodology followed throughout the meetings of the work seminar. The different steps were approached simultaneously.

It is important to point out that, according to our approach of work, all the stages and activities developed in them, both at a theorical and at a practical level, were approached from the participation of all the members of the group. Everyone contributed with the most specific knowledge of his area, at the proper time, so as to be discussed and decided on by the group.

As for the planning and development of the seminar, this concreted as follows:

*a) 2h weekly meetings of all members.*

In these meetings arose problems to deal with, the individual work done by the members of the group was set forth, the information collected was analysed and they served as a discussion forum before reaching consensus about the decision making of the group.

Moreover, the work to be developed individually by the members of the group was planned and joint documents were worked out for the development of didactic units.

The training of all the members of the group in the different techniques and methods used in the research calls for joint work on analysing the data

*b) Putting into practice the plannings made.*

Putting into practice the action involved the development in the classroom, by a member of the group whose teaching developed in that classroom, of the programming carried out by the group and the ressources worked out. At the same time, another member of the group watched the putting into practice in the classroom, and described the process through field notes for a further analysis. Sometimes, people from outside the group acted as observers in order to carry out the triangulation of the data.

## 6. Data collecting techniques

During the first steps of the research we planned the systhematized collection of the data that would bring us enough information for the reflexion. The techniques used during the process were:

*tape-recording of the sessions of the seminar
*records of the seminar
*working out documents
*participant observation in the classrooms where the experience was developing
*video-recording
*partial reports

The evaluation both of the sessions of the seminar and of the putting into practice the experience was based on the analysis of the information collected by means of the techniques indicated.

The analysis of documents also brought us information for decision- making. They concerned regulations and bibliographic information for working out the curriculum and the pupils' works to evaluate the experience.

## 7. Working-out and corroboration of hypothesis concerning the training of teachers and the methodological approach of Cooperative Research.

Establishing an organizational frame of meetings of all the members based on the seminar, made it possible to have a joint reflexion on the questions-hypothesis arising from the members· dynamic of action itself. The triangulation of the data provided us with the corroboration of the hypothesis set.

*1. The fact of setting into practice the model of action research, enables the acquisition of a new perspective of the approach itself:*

The different training plans for teachers and researchers that introduce in a prescriptive and theorical way the model of action research -similar to those used previously for other experimental models- have brought about an abstract training for them which apart from deforming the model itself makes the training irrelevant to their practice.

Personal freedom and willingness is related to the search for some professional improvement on the part of the individual. By improvement we understand a knowledge and grip on one's own field so as to have the competences that we understand a professional should have.

That is, compulsory attendance and/or participation in this sort of work does not favour the involvement in the change of educational innovation.

In our experience, the personal effort made by practicers and theorists and the intrinsecal motivation in the development of the whole process turned out to be an excellent opportunity to continue advancing.

We believe that had this relationship been an answer to the need to fill up some bureaucratic exigences, for instance: filling up some hours to get a certificate,

enlarging one's curriculum, filling up gaps in the labour timetable, participating in training models designed by the Administration, such as we have been able to check in other situations, the process and result of the experience we are presenting would not have been possible.

*2. When the practical interest arises among professionals bound by a common wish to give sense and significance to their work, the figure of the "facilitator" of the group can be performed by all the members' selfregulating.*

The practical interest orientates mainly towards the production of an informed judgement of value for the improvement of practice. The fact of trying to understand what we do facilitates the fact of working in cooperation with others instead of working in competition with them.

When a practical interest guides our action, it is not success that usually comes out as a consequence of the work, but interaction. On trying to understand our ambiance through interaction, we look for an agreed interpretation of meanings. Who facilitates this comprehension? Is the figure of the "facilitator" necessary?

At this point, logically, the interest that moves the type of research that is being done will set the task of the "facilitator" himself. That is, if we start from a technical interest, the "facilitator" will have some clear responsibilities within the group and will take on leadership as something corresponding to his task.

On the contrary, when starting from an approach to the work based on a practical interest, the "facilitator" will feel obligated to analyse his task and leadership within the group and to work out again with them which his task is within the group.

In our experience all the members of the group were aware of the need for consensus, and to some extent we could say every member regulated himself without needing a person of the group to act as as "facilitator". According to the different

stages and tasks to carry out, every member gradually took on a number of responsibilities related to his knowledge.

Therefore, although we find it necessary to take into account the characteristics of the group where the research is carried out, in groups like the one with whom the experience we are presenting occured, the presence of a "facilitator" seems unnecessary. We understand this figure as someone who anticipates, proposes, synthesizes and guides the rest of the members of the group.

*3. In the model of A.R. the members of the group admit the cognitive conflict and crisis as means of conceptual methodological and training advance of its components. They are part of the process of an open action plan.*

Throughout our personal and professional training we have interpreted or more precisely we have been led to interprete that mistake, crisis, conflict and difference from the rule are negative aspects. Somehow, crisis and conflict were thought of as something to be avoided, because the belief was that learning was something lineal, a sort of path to go through and the one to traverse it the fastest was the most capable. Success and efficacy were characteristic of this procedure.

This conception favoured both individualism and competitivity, as well as mechanichal learnings lacking any sense at all.

As opposed to this way of conceiving professional and personal growth, some models of investigation and learning show us that not only are mistakes, differences and conflicts suitable strategies in order to advance but they are also in most cases the only to favour the comprehension of meanings and significant learning.

In human groups in general, conflict and crisis appear at many times of their life. It is not something regarding only work groups, but work groups are made up by individuals that advance through overcoming conflicts-crisis at the different stages.

However, when carrying out work within the cooperative approach, crisis and conflict appear at different times and due to different causes. Were we to go deep into this we would probably find personal factors that would help in the analysis of such conflicts.

Focusing on C.R. we should say that crisis occurs when a new stage is to be planned - what shall we do? what is our objective? - basically it is a way of bringing into the group the fears about the fact that the step to take might not be suitable to achieve what in principle was our main objective. It also implies a sort of maturity with regard to our first plans. It is a time for re-setting, when all doubts about one's own work are stated openly. This makes the group reflect and try to channel the ideas appearing at this time that lead to a new structured setting where the advance to a stage of the group is collected.

Conflict is felt at different times, but more specially when different approaches of the task appear, leading us to appraise people's ideological-theorical schemes , securing the consensus of the group without losing the richness of individual contributions.

Thus, we discover that the imbalance produced unavoidably brings about larger levels of meaning and sense that are to the advantage of our training level. When crisis and conflict are seen and assumed as a necessary part of the process, not only are they better tolerated, not only is the feeling of insecurity reduced, but it becomes the motor of progress.

***4. As far as a previous theorical training is not provided, methods and techniques are learnt and used as they are needed at the different stages.***

Theorical training has traditionally had a sense of step previous to practice. The perception of theory and practice as two different realities has an implication on the consideration of different status between theorists and practicers: the one that knows is the theorist; the one that executes is the practicer.

Thus, the theorical expert "feels the need to train the other" on an aspect of his knowledge, which is all the same felt as superiority in the relationship established from a professional point. However, when approaching the group from the basis of equality of its members we get to overcoming behaviours that show the superiority of some above the others. Convincement of the need individuals have to learn from others, eliminates the need to give lessons and works out the overcoming of the stages with the contribution of the knowledge each member of the group has.

One of the characteristics of the model of C.R. is that training is possible and becomes meaningful when it takes place due to the need felt by the research group in their practice.

This assumption of work was checked in the experience we are presenting, when verifying that there has been an understanding on the part of all its members, theorists and practicers.

Moreover, all the team have achieved a theorical-practical training on different techniques of registration of the process, approaching their knowledge of the characteristics, procedures and usefulness thanks to their inclusion at the different stages of the process in which the registration was useful and meaningful.

It is particularly relevant to point out the importance of making a register of records of all the group work sessions, which later on permits the reconstruction of the process in all its aspects; the technique selected (notes, tape/video recording) is the one found more suitable and less threatening for the group at each stage.

In addition to this we have found that the effort of categorization of field notes on open observations, when made by the whole group, permits learning this technique. Besides, it gives the chance to create a common language within the group, which facilitates their later communication; it also favours clarification and consensus on the comprehension of concepts that sometimes enclose theorical

differences and sometimes just comprehension nuances.

*5. The group work of theorists and practicers gives the chance of the former acquiring practical competence without disturbing the class group's ordinary life.*

Building a design requires some logic in its process or theorical setting that guarantees its contingence. Checking in practice is a compulsory process if we wish to show the truth of our ideas. That is, generalization is only possible when we check the real work of the design.

However, what we are suggesting here is that the putting into practice, by itself, does not guarantee enough information to analyse the factors intervening in its process of development even though one might take into account a series of variables considered as the most relevant ones.

We plan together an action to be developed in the classroom. We assess the limitations we find when translating it into written language. Once the design is made, that is, agreed on by all the members of the group, it is set into practice. The practicer himself is in charge of the development, without the intervention of any strange element, but with the advantage of the participation of all of us in that process from the feedback the group gives us. The field notes collected by the observer, the statement of the difficulties found by the practicer himself or through the video registration, lead all the members of the group to take a living part in the practice.

*6. The fact of working on the improvement of some specific practices makes all the members of the group improve their own practical action. Working on the improvement of a specific level serves as a model with chances of generalization to other levels.*

One of the largest advantages noticed in the team work of practicers and theorists is that it favours the transformation of the professional culture of the teachers

involved at the different institutional levels at which they act.

In the experience carried out we started from the acceptation that neither practicers nor theorists have the solution to what, when, and how to evaluate. However it is possible to work out projects that will be improved later through the cooperative dynamic.

Once the instrumental rationality , where someone had the solution to the problem and showed it to the others, has been overcome, now among all the participants we construct and learn from the problem itself.

In no case is it a question of bringing into practice the post-modern relativism, in which there is an intentional lack of criteria to state what is rationally better. The thing is to try and state among all of us what is better and more suitable at every moment.

As for the experience carried out, the fact that the members of the team belonged to three different levels of intervention -primary education, university and support service- made it possible to check that in all of them reflexion on the practice whether it be one's own reflexion or someone else's, had an effect on one's ordinary practice.

Thus, practicers observe some improvement in their skill to process and systhematize information as a basis for their practical judgements, which gives a larger sense and meaning to their practice -up to then basically intuitive and experiential.

On the other hand, the members of the team considered as more theorical were able to collect the experiences of the theorical proposals, which had been contrasted by the practicers, as useful and practical references for their intervention at other levels.

*7. When working from a constructivistic approach it is necessary to consider that it is not only the pupils that have to construct the knowledge through significant learning but also the teachers themselves have to construct meanings and generate knowledge in order to be able to understand and put into practice the approach underlying the educational reform.*

The current educational Reform has the constructivistic model as a frame. This model has underlined the importance for the learning of the pupils of not repeating mechanically the contents, that is the importance of their "constructing" knowledge instead of "copying" it.

Thus, a big importance is paid to the collection of previous ideas, to interaction among equals, to the connection between theory and practice, to logical and psychological significance, etc.

However, these "key ideas" teachers have to put into practice sometimes "willy-nilly", cannot be learnt if at the same time we do not create spaces for those teachers who are to put the Reform into practice to "construct" their own knowledge instead of "copying" it on others.

In this sense, the dynamic of our group -guided by a practical interest- has favoured the comprehension of the constructivistic approach not only as underlying the teaching-learning strategies addressed to the pupils but also as experienced by ourselves.

This way, the well-known dilemma - can what is to be constructed be taught?- can begin to be unfolded by the teachers themselves.

In order to be able to teach constructivistic strategies, we have to experience them ourselves. Going from an empiricistic epistemology, centred on the product and on the acquisition of knowledge, to an epistemology centred on the processes and on

the capacity of generalizing the contents and procedures learnt to other contexts, unavoidably demands that we, teachers, also construct what we are to teach.

As far as:

.-Previous expectations

.-The change of conceptual schemes through cognitive conflict

.-Interaction between practicers and theorists

.-Cooperative learning

.-Dialogue as a facilitator of the process

were present throughout all the stages of our work in the experience we are presenting, we can conclude that we have generated knowledge instead of repeating it.

*8. The commitment and motivation that appear when practicers and theorists work in cooperation, makes it possible to include relational variables not taken into account in the constructivistic approach, which we interprete as a model of "cold cognition".*

However it is true that the constructivistic model has brought us a new perspective in what regards the way of conceiving the teaching-learning processes,it is also true that that in it motivational relational and emotional aspects have been relegated in the explanation of how subjects learn.

In our opinion, this approach conceives the person as a cognitive systhem interacting with reality, which is too racionalist and which, for this weason we call "cold cognition model".

We understand that the structuring action of an individual that learns is interfered with by the group's relationships, personal motivation, commitment to his context, his self-concept, etc. All these factors must be taken into account when we want to develop a global theory of teaching that explains how we learn.

Many of us have had the chance to check in practice the difficulty of working in group. In most cases this difficulty does not arise just because people are not competent in what concerns the development and carrying out of the task itself, but mainly due to reasons of group relationship, such as self-affirmation, dependencies, difficulty to tolerate the different, misadjusted self-concepts, transfer of personal problems to the group, etc.

In this sense and within the experience we are presenting, because both theorists and practicers started from common expectations, in our wish to understand and improve our practice were not only present cognitive capacities and competences to carry out our work, but also socio-affective capacities, which in our case manifested in: basic trust among members, feeling of belonging to a group, acceptation of different styles, tolerance to frustration when faced to unreached expectations, adjusted self-concepts, etc.

In our opinion, the relevance of relational variables for the development of any project framed within the constructivistic model, is basic.

And this refers to the fact that affect is a motor of learning not only for pupils, but also f or professionals.

***9. Reflexion and contrast make it possible to understand the meaning of actions of different members of the group within the process of C.R.. This leads to a change of attitudes that has an incidence in their practice.***

The methodology used in cooperative work based on practical interest, arises the constant need for self-reflexion and group-reflexion. The individual, as such, sees himself involved in a constant search for contribution to the group. It is the feedback between the group and the individual that obligates both of them to a continuous working out of the action.

In this process a change of attitudes takes place in the individual. Consensus due to carelessness or lack of opinion has no room within this context of work. Thus, everyone will feel moved to participating not in order to maintain their image within the group, but due to the involvement and responsibility they have taken on when being free to participate in it.

These levels of group respect that make possible a change in the attitudes of the subject, have a relative interest if they just serve to improve the relationships within it.

In our particular case, individual responsibility increased as group discussions to understand the meaning of the action became more complex. But at the same time this complexity was a result of individual involvement.

On analysing this process, the incidence of these changes can be observed in the practices carried out by the members in other contexts. This is to say that the changes of attitude of the subject do not only produce changes within the group but outside of it as well.

Thus, the changes felt as positive within the group lead to foster and value their consecution in relation with other people and reinforce the change itself.

***10. When achieving to develop and put into practice the participants' interests and expectations we favour the motivation to continue researching.***

Why do we continue working on cooperative research?

In our experience this question seems suitable. Trying to answer it means an analysis throughout time by the people involved in it.

It is clear that an experience of this type - planned without an end in time- is only possible when the main target is the training of the people who are making it possible.By this we mean an interest in the improvement of our practice, a personal pleasure and curiosity to learn.

There has been no institutional requirement to set an end to a stage or to hold us up at a particular moment.

We are also aware that a group needs to solve the different stages so as not to lose heart and work properly. The achievements at each stage must be coherent with the expectations of every member of the group. Therefore, the solution of problems within the time set produces, in practice, some satisfaction in the individuals that is to the advantage of motivation towards the task.

Evaluation at the final moment of the spiral gives us the chance to check the achievements got in practical work and in our own learning. Nevertheless, this moment also gives us data that serve to re-set the following stage; it allows us to notice the possibility of continuing with a work through which we have reached expected goals and to see that what has not been achieved can be so at further stages.

Therefore, achieving goals concerning short-term problems and evaluation as analysis of a stage, bring new data that motivate the group to set the next step towards the problem which solution is foreseen in a longer term.

Motivation is also related -at the different stages- with commitment, responsibility and discipline of the members of the group.

In this sense, we are aware that we have reached larger and larger levels. Thus, when analysing the records of meetings we notice that monthly meetings became weekly. This is an example of how motivation favours the fact of the group

devoting a larger time. It is more so if we take into account that all the people in the group have to comply with different working-hours, which raises difficulties to establish a common timetable.

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